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### INFORMATION ON THE GROUP

Membership of QUANTA (QL Users and Tinkerers Association) is by subscription to QUANTA, the group's newsletter, which is published monthly. Membership details are obtainable from the secretary. Membership of the group is open to anyone with an interest in the Sinclair QL microcomputer.

Members requiring assistance with problems related to the QL may write to or 'phone the secretary. An attempt will be made to put them in touch with a member who can help with the problem.

Workshops will be arranged from time to time in various parts of the country.

The group maintains a software library. Most of the programmes are free to members. A library list will be published from time to time. Programmes are obtainable from the sub-librarians.

A list of members in any particular area is obtainable from the secretary.

Please send all contributions to the newsletter to the editor.

Chairman and  
Newsletter Editor

Leon Heller,  
8 Morris Walk,  
Newport Pagnell,  
Bucks. MK16 8QD.  
Tel: (0908) 613004

Secretary and  
Newsletter Publisher

Brian Pain,  
24 Oxford Street,  
Stony Stratford,  
Milton Keynes MK11 1JU.  
Tel: (0908) 564271

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Quill, Abacus, Archive and Easel are trade marks of Psion Ltd.

### NOTES FOR CONTRIBUTORS TO QUANTA

Quill files on Microdrive cartridge or 40 track disk (single or double sided), are preferred. Cartridges and disks will be returned ASAP.

Printed contributions are acceptable. They should be printed on A4 paper, using a fresh ribbon. Do not fold the sheets, but keep them flat when posting. Short letters and articles may be handwritten, but please write legibly.

Short programmes can be included, but lengthy programmes should be placed in the library, and a description sent in for the newsletter.

## EDITORIAL

We've decided to change the name of the group to QUANTA. IQLUG is rather difficult to pronounce, and lots of members call the group QUANTA, anyway. QUANTA stands for QL Users And Tinkerer's Association, a somewhat contrived acronym, but aren't they all? Since it is an acronym, the group's name should be in capitals, but the newsletter name is spelt "QUANTA".

Substantial discounts on both hardware and software are available from some suppliers. Give me or Brian a ring if you are thinking of spending a lot of money, especially on hardware. Requests for discounts must be accompanied by a current QUANTA envelope label. If you lose the envelope, a replacement can be obtained from Brian on receipt of an SAE. We are thinking of issuing membership numbers, which will solve this problem.

A new publication called "QL World" will shortly be going out to all QL owners, together with the next issue of QLUB News. "QL World" will have a regular page written by me, about the group's activities, similar to the one I've been doing for EMAP's "QL User". "QL World" will be bi-monthly for the first two issues, and will go monthly with the September issue. QLUB members will get the first six issues free, with each copy of QLUB News. QLUB News will then disappear, and "QL World" will be on sale by subscription or from retail outlets from then on. Richard Reese, the publisher, has assured me that "QL World" will be completely independent of Sinclair. Issue 4 of QLUB News was quite good, in my opinion, although an excessive amount of space was taken up with irrelevant illustrations, and a couple of staples to hold it together wouldn't come amiss. Our own Bill Cowhig won four Microdrive cartridges for his suggestion of "Quintessentially Lightfingered" as the meaning of QL, and letters from IQLUGgers Wil Jackson and Anthony Haddock appeared.

Although I had it on good authority that the JS ROMs got into repaired machines by mistake, Sinclair have now made JS the official new version. I took this up with a Sinclair spokesperson, and she admitted that JS had a lot of bugs, but these were mainly in the new, undocumented features. Provided only the features described in the documentation are used, there should be no problems. One benefit is that Microdrive operation is considerably improved, in reliability and speed. "TRA", by the way, is nothing to do with tracing programme execution, as has been reported in the comics, but is involved with the translation of character fonts for the foreign versions. Talking about foreign versions, an Arabic QL will be coming out, with the cursor going from right to left as you type. Arabic numerals are usually written from left to right, as we do, however. I wonder how they get round that? Another problem is that Arabic characters change form according to where they are positioned in the word. Both these difficulties have been overcome with Arabic typewriters, apparently, so they are not insuperable.

I am now getting such a lot of contributions to QUANTA, that the pile of articles awaiting publication seems to be growing faster than I can use them! The obvious solution is to increase the size of the newsletter, but we cannot really afford to do this at the present time, unless we get a lot more advertisers, and/or increase the subscription. Cres Fernandes is trying to get more advertisers, which should help. We will also be increasing the subscription, to £7 for six months, and £14 for 12 months, commencing with the new six month subscription period which starts in a couple of months. In the meantime, QUANTA will be increased to 44 pages, to encourage members to renew.

Now that several magazines have previewed the Atari 520ST, I don't think it poses a great threat to the QL in the UK and Europe, because of the price. In the States, because of the much higher average disposable income, its a different matter. I feel also that the QL is in many ways a better machine. The Atari doesn't have a multi-tasking operating system - the much-vaunted TOS is simply CP/M-68K, from what I can gather - and the hardware hacker has no access to the system bus, unlike on the QL, although something might be done with the ROM connector.

QL mice seem to be breeding. Kempston, well known for their joysticks, have announced in Popular Computing Weekly that they are working on the first mouse and interface for the QL, with software written by Tony Tebby. This was news to Tony, he tells me! Moreover, I wonder what it was CST were demonstrating at Cambridge a couple of months ago. It looked very like a mouse to me.

A recent article in the Sunday Telegraph financial pages claims that Sinclair Research Ltd.'s finances are in a parlous state. Sinclair admit to an overdraft of around £5m and they can have very little in the way of assets, apart from unsold machines (£30m worth), and massive stocks of components, mainly for the QL, ordered when they expected the machine to sell in very large numbers. The company's main creditors (notably Thorn-EMI and Timex) are helping out by waiting a bit longer for their money. Sinclair now have a new MD, David Chatten, and it is to be hoped that he can get the company on a sound financial footing as soon as possible. I have just heard that Sir Clive is standing down as chief executive, and a replacement for him is being sought. Sir Clive will remain as chairman. Apparently a cash injection of £10m to £15m is required 'to fund long-term growth and restructuring plans', according to the Financial Times, and approaches are to be made to industrial companies willing to take a large minority stake in the company.

Leon Heller

#### **MEMBERS' LETTERS**

Contributor D. C. Williams must have a different EP44 from the rest of us (see EP44 to QL interface last issue) or he is still using the old Sinclair Quill software?

He suggests an EP44 bit length of 8 and a CODE of 7-bits. That just won't work! His suggestion to reset the Printer Driver on Quill using "£,156 to get a £ sign to operate on the EP44, results in ",156 - on my machine and others. If any reader is having trouble getting the pound sign and can't be bothered to change the driver, they can simply use the hash sign and it will come out £ on the EP44. Simplest way, however, is to set Translate 1 to £,"#,as indicated for the Epson conversion on page 6 of the information section of the QL User Guide. (TRANSLATE 1). There is no END OF PAGE CODE on the new 002 driver index. So set EP44 Input/Output to TERMINAL . Use the MODE key and CARRIAGE RETURN bar to set parameters.

BAUD RATE	300
BIT LENGTH	8
PARITY	N
NEWLINE	CR+LF
CODE	7 BIT
ER	Y
PRINTER DRIVER NAME	EP 44
PARITY	NONE
BAUD RATE	300
LINES/PAGE	66 (or preference)
CHARACTERS/LINE	80
END OF LINE CODE	CR,LF
PREAMBLE	NONE
POSTAMBLE	NONE
EMPHASIS ON	DEF (OR NONE)
EMPHASIS OFF	DEF (OR NONE)
UNDERLINE ON	DEF
UNDERLINE OFF	DEF
SUBSCRIPT ON	NONE
SUBSCRIPT OFF	NONE
SUPERSCRIP ON	NONE (QL WONT ACCEPT 'ESC+E)
SUPERSCRIP OFF	NONE
TRANSLATE 1	"£,"#

Re your editorial comment: Apart from the infuriating delay in obtaining a communications pack (QCON) I can sympathise with anyone who like myself was caught out by OEL who accepted and cashed in Credit Card accounts knowing they were in difficulties and were unlikely to meet the 28-day deadline for delivery. Under £100 the Banks and their Credit Card companies are NOT liable, as you suggest. However, if the order, like mine, was placed through an advertisement appearing in a periodical, magazine or a daily national there may be some redress. Inquiries should be to the Periodical Publishers Association or the Newspaper Publishers Association.

H. Dvoretzky,  
52, Sunningdale Close,  
Stanmore,  
Middx. HA7 3QL.  
Tel: 01 954 3660

*/\* Because OEL went into receivership/liquidation, customers have no redress against the Periodical Publishers Association, I've been told. The fund is only for cases of fraud, although OEL's behaviour with cheques and credit card transactions seems rather dubious to me. \*/*

-----

As a result of my first letter to you giving my views on the free issue of the Version 2.00 software, I have received requests from as far away as Canada and Ireland for me to provide copies of my tapes, and I would like to reply through QUANTA that I have to refuse, if for no other reason than prudence, even though I would like to help.

I suggest that if the machine is unsatisfactory it should be returned with a written statement of the reasons, and if it continues to be unsatisfactory it should continue to be returned, remembering that the purchaser is not expected to be expert in any way. I followed this line with Sinclair, who finally agreed to a refund which I accepted, but which I eventually used to purchase a new unit at a local store where I could obtain a replacement on the spot if necessary - and it was necessary!

If a refund is obtained these days it can be used to purchase a new machine together with the latest software.

Peter Dyer,  
Kineff House,  
Devon Bank,  
Guilford,  
Surrey GU2 5DQ.

*/\* Since Sinclair insist that version 1 of the Psion software is perfectly usable, I suggest that members who are having problems with version 1 should first return the software for investigation and replacement with a covering letter detailing the problems, and then return the machine, if the replacement software still does not work properly, until they get a satisfactory system. \*/*

-----

I have just read John Tanner's letter relating to my data input routine (QUANTA Vol. 2 Issue 2) and agree with him that in its printed form it will not work. Anyone sending me a blank cartridge and return postage and packing will receive a working demonstration programme. A number of people have already contacted me of their own accord, and I have supplied them with said cartridge.

Frank Hope,  
15, Ash Close,  
Thorney,  
Peterborough.

/\* Frank sent me the wrong version, apparently. I'm afraid I just don't have the time to type in and check programmes that are sent in for publication, so please make sure they are correct. Frank asked Brian to request that I put an amendment in the following issue of QUANTA, but either Brian forgot to pass the message on, or he told me and I forgot it. The notes on the inside front cover state quite clearly that contributions should be sent to me, and if this instruction had been followed the correction would have been published.

It would also be nice if members who see something seriously wrong with a programme or article contacted the original author in the first instance, rather than sending a letter about it to me, for publication. In future I'll try to see that this is done, to avoid any ill-feeling. \*/

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I totally share your low opinion over the Hutchinson books, now that I have had a chance to look at some of the others that they publish.

I concur entirely with your comments over QL User. It is a pity that you don't "sling" more weight with the editor in order to make him more seriously consider the changes you suggested. Why don't you tell about these changes in QUANTA? This way all members could write to QL User politely making the same suggestions as you made. This might give them a little more weight. I am of the opinion that if a magazine dedicated to my computer exists, it might just as well be a good magazine, catering for a rather large choice, as my own taste is not necessarily that of everyone (even though most echoes I have had over QL User were not too favourable).

I bow to your decision not to "advertise" IQLUG in France. You are probably right in saying that there aren't enough QL owners in France to warrant that attention. In any case I have not been contacted by anyone living here in France since my address appeared in QUANTA.

The outlook for us QL users here in France still is somewhat bleak. Actually I only really know about the situation in Paris, but as everything here in France is pretty centralized and revolves around Paris (the French even have words for it: "Paris is Paris and the rest of France is the 'province', " ), despite recent Government efforts to change this, the Paris situation is the most developed one. But as far as the QL goes, not much is happening. until recently the only QLs available here were those brought into this country by "grey" importers i.e. companies that bought the goods in Britain and then imported them into France without going through the official Sinclair export network. (This is possible due to EEC regulations). This situation is now slowly (and slowly is the word) changing. Sinclair have opened a QL "centre" on Avenue Hoche, apparently they weren't too happy with their official importer.

Unfortunately, this doesn't really change the situation much.

In software terms, we are still starved: On April 16, 1985, the only software packages available over the counter were The Psion Chess programme, the Metacomco Assembler and the Lisp language programme.

The hardware side was not only starved, but totally dead: The only hardware "add-on" available here is the RS 232 lead!!! There was a shortage of Microdrive cartridges, apparently caused by Increased demand in Britain due to the price cut over there. The price for a cartridge is about 80 Francs (about 7 pounds!).

On the other hand, as far as books and magazines are concerned, we're quite lucky: There is a W H Smith shop over here and they carry most of the monthly and weekly magazines (such as QL User, for what it is worth) as well as some books on computers, even about the QL.

The French computer boffins do however have one small advantage over their British counterparts; and this as far as the screen is concerned: All television sets which have been sold in France since the middle 1970's must obligatorily contain a special connector and the necessary circuitry for it. This plug, which I think is called "Start" in Britain provides, inter alia, for an RGB input which totally bypasses the television demodulation circuitry. Thus for each television we get a free (but agreeably quite low resolution with some models) monitor thrown in. I am actually writing this letter on Quill and on my normal television set, in 80 column display mode without any legibility problems whatsoever. The only problem would be the QL related offshoot of some letters around the corner as happens with normal monitors that don't have their bandwidth specially adapted to suit the QL.

Wolfgang Lenerz  
5 Passage Thiere,  
75011 Paris,  
FRANCE

-----

The short report you published from Ms. Poisson was of particular Interest to our group at Pulleg Research because although we were not directly involved with psycho-emotional research like that being undertaken by Prof. Umkopf we have been using a number of QLs in the course of another project.

Our attention was drawn to certain recurring emotional conditions which were observed among our own researchers during the course of their work on this project. Rapid swings of mood were noted when they were in close contact with the QL. Normally intelligent and placid employees would often become morose, irritable and disgruntled sometimes after a very short exposure to the machine.



Our first thought was that the "dongle" on our early machine was not sufficiently insulated and was emitting a form of psychophysical radiation. As updated QLs came into use the problems did not abate and we postulated that the emissions were ROM sourced. In this context we were very disappointed not to gain access to the JS ROM to compare the effect of the new machine.

More recently however we have concluded that the problems were resident in the programme code because since the arrival of Psion's Version 2 software the previously witnessed outbreaks have become a rarity and there is an air of contentment throughout the establishment.

A.M. Phigory

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In the April issue Dr. John Heckmatt asked whether he should invest in extra memory for his QL. Having done just that I will try to persuade him to do likewise. I use my QL to run a small Club and several courses which together require a fair amount of word processing. Whilst I never have enough time, my problems are not measured in milliseconds. It does not seem important therefore that Quill will load in four seconds from a disk drive as opposed to twenty from Microdrive. The capital outlay for drives and an interface is almost certainly in excess of the cost of the original QL. This apart, it seems perverse to spurn the built in storage devices because in my experience they have been reliable. The deciding factor to ignore disks was the reduction in cartridge prices.

The frequent accessing of Microdrives in an unexpended QL shows Quill to be an inefficient word processor, admittedly exacerbated by the bugs in Version 1. When I lost a large document unexpectedly as the memory expired on the vastly superior Version 2, I decided it was time for action. How much memory? We hackers tend to be herded to the ultimate, much in the manner of the HiFi buffs ever upgrading in search of the impossible perfection. For each £ spent large memory expansions represent apparent better value than the smaller cards. However using Microdrives imposes a limit on the data that can be saved so why buy more memory than can readily be used? PCML advertised 64K, 128K & 256K memory expansion cards in the April edition of QL User at prices comparable to the best I have seen. What clinched it in their favour was the availability of a RAM disk facility. I ordered and duly received a 128K expansion card for £115 (excluding VAT). Unfortunately the ROM chip which facilitates the RAM disk could not be supplied because as Managing Director, John Fuller, explained to me in an apologetic telephone call Texas Instruments have failed to honour the promised February delivery Date. The card fits fully inside the QL and it worked first time. I do not know how much useable memory I have in Quill but Abacus proffers 133K against the unexpended 23K (version 2). I can use Quill without any access to Microdrive until I want to save the

file. When the RAM disk is available I am sure that the system will meet all my foreseeable requirements. I recommend anyone who is interested to give PCML a ring on (0372) 67282/68631.

Neil Crighton

### **PROBLEM SECTION**

It is very hard for anyone beyond the first weeks of sitting in front of a computer keyboard to imagine just how ignorant they were during the first few days. They even forget how much they did not know last week. The consequence is that when they write really first-class stuff - like the splendid set of procedures that Frank Hope contributed in Vol 2 Issue 2 - they still overlook the benighted Beginner who can follow half-way and copy the programme, but still can't be sure how to incorporate the procedures properly into a programme, because he isn't very sure of how to handle the necessary sections of the programme that will require them.

So what do we do? Copy down the procedures, SAVE them, and trust that more light will dawn with some future issue of QUANTA. What are probably needed are longish programmes that can be entered and tested in blocks, with, procedures that can be called for demonstrations of what they will do. That is what the QL User Guide required and notably did not have. There the beginner has to make do with smallish programmes that are often baffling and which become even more baffling when, as often happens, they won't RUN.

Another puzzle: what exactly does a channel do? Occasionally I find that the PSION programmes now come back to Basic but when I try to use other programmes, the error message is 'Channel not open' and the sole recourse is to RESET. Another similar problem (mentioned in an earlier QUANTA) concerns the 'out of memory' error message that sometimes appears at a similar time. But it can also come up during some of the programmes typed in from mags and elsewhere. These come without warning and can be most perplexing.

Sorry if this sounds very negative, but Beginners will be Beginners, as they say.

How much current does the QL use? If I leave the computer switched on (in order to keep my clock correct) is this extravagant? I can see that to leave the TV screen on is expensive.

How does one get dates and times to incorporate in the PSION packages ?

What exactly are the times when one can safely remove mdv cartridges?. On Super-bas presumably after NEW, before LOADING and even apparently after LOADING. But not if a programme is RUNning? The PSION programmes are less

accommodating. To run a LOAD enquiry on QUILL is fine if you want to use the files on the mdv cartridge, but changing to another cartridge usually provokes a strong reaction, to which the sole certain way of avoiding a 'Bad or Changed medium' message is to RESET and start again. To change cartridges when using ARCHIVE is also difficult and potentially more dangerous, since there are occasions when one can easily forget that files need the command CLOSE or QUIT before the mdv cartridge is removed. This is a particular hazard with a very fine programme that gives me a series of one-key commands with access to files but does not automatically CLOSE these files on return to the normal keying.

One can ask questions in QUANTA but one cannot always get answers. At my second time of asking, (last issue), about how to stop the Directory over-flowing, Captain Fieldson from Rickmansworth was kind enough to send me a useful programme. I had, in fact, adapted one from the IQLUG library (Rob Sherratt's "Delete") but the new one is rather better. On the other hand, we beginners are submerged in details about C, Machine Code, Forth, Fortran, Lisp, Prolog and many other esoteric languages. Perhaps after several years one might become an "expert", although at my age I much doubt it.

Comparative costs. Can someone enlighten me more than do the current advertisements on what is worth the cost. Is £296 for more RAM really worth paying for?

I have had extreme difficulties to get my Praxis 450 connected to the QL. Olivetti have the reputation amongst dealers of being the most cursed of manufacturers and my difficulties were compounded because I bought the typewriter from a dealer who went bankrupt part of the Brave New World of British industry.

How many programmes can be expected to RUN directly when entered from a computer magazine? The standard of printing, e.g. QLUser seems to be rising, but there are still snags. One big one is that there is insufficient explanation. Even when the programmes do indeed work, there is often no clear statement of why or in which order. One place where this was not true was in PCN of 23 Mar, where Gavin Monk gave in 'Microdrive Mastery' a very clear and detailed set of directions to explain which part of the programme was responsible for each of the procedures.

Could anyone advise me of the simplest way to construct a programme which produces a race-track, as I should like to put one on the screen. Nothing very elaborate: just something circular that can have a couple of competitors moving along, i.e. the track will need to be moved across the screen if they travel any distance. Is that difficult to find? With all the games already being written I imagine not.

How can one produce an index for the contents of one's own mdv cartridges?

Finally, is there any regular check on computing periodicals that may contain particularly interesting or useful articles or programmes on the QL? At various times I have looked out numerous publications and compiled a modest index for certain issues, but occasionally find myself with odd copies of one or two sections of a relevant series. Can one hope that anyone will regularly have the other sections?

John Roberts

/\* The QL itself takes a negligible amount of power, and I leave mine on most of the time. The monitor/TV is another matter, and should be switched off when not in use, as it can present a fire hazard, and also takes quite a lot of power. The picture tube might deteriorate quicker, also. As a rule, modern solid-state equipment like the QL tends to last longer if not switched on and off - this can cause a phenomenon known as thermal shock which can reduce the life of the chips. Mainframes and minis are usually left running 24 hours a day, for what it is worth.

John raises the perennial problem of the level of the articles in QUANTA. We have to cater for a very wide range of user - from the beginner who has never written a single programme, up to people with a doctorate in Computer Science. The former say they only understand a very small proportion of the articles, whilst the latter complain about most of every issue being quite trivial, as far as they are concerned. At least John has provided plenty of suggestions for future articles which will now materialise, hopefully.

I have most of the material that has been published on the QL, and might be able to provide photocopies. How about a librarian for printed material? Anyone volunteering will need access to a photocopier, of course. The legal side will be OK provided members using the library signed a statement that the material was for their own private use, I believe, as is done in libraries.

Additional RAM is most useful if you are using the Psion programmes on large jobs such as big databases and spreadsheets. If your applications are not limited by the available memory, then you don't really need RAM expansion, in my opinion. Some of the newer software development packages for the QL, like Metacomco's ISO Pascal, require a lot more memory, if anything other than "Mickey Mouse" programmes are being written. Programmes developed with such packages will run quite happily on unexpanded systems, as a rule, so a company developing Pascal software 'in house' might use a single QL with RAM expansion and disk drives for development, with departments using the software on unexpanded Microdrive based systems. \*/

-----

I've 'liberated' a Hewlett-Packard 2770A line printer with 132 characters/line max. and variable baud rates up to 9600. Although normally fitted with a Centronics

interface this particular beast has been modified to RS232C. Has any IQLUG member any experience of this beast? It will print but no matter how I configure the INSTALL BAS programme I lose great chunks of a file (e.g. a seven field address dbf loses the first field and one letter of the second field of every record before it starts to print, and it truncates the last fields similarly.

Also, I can 'liberate' two H-P hard disk drives (type HP 7900A) with 2.5 Mb per disk (including around 50 disks). Being computer illiterate can any IQLUG member suggest whether I might be able to get a company to produce an interface and software for these machines. If so who? I'd be quite prepared to spend up to £500 for a one-off custom-designed package, as I'd then end up with £10,000 worth of hard disk equipment.

Gordon Darling,  
P.O. Box 3474,  
Boroko,  
Papua New Guinea.

/\* I have a nasty feeling that you'd have to pay more like £5000 to get those drives interfaced to your QL, as a one-off exercise! Data comes off those hard disks at an enormous rate, and you'd probably need a fast processor with, say, a 64K buffer, just to handle the things. I've got a 5 + 5 Mb Honeywell drive someone gave me sitting in my garage (it takes two people to lift it) and it would be nice to plug it into the QL, but it would be totally uneconomic. \*/

#### RESETTING THE EN. FROM BASIC

The following little programme illustrates a technique for resetting the machine from BASIC. One or two members asked for this a long time ago, and I have just got around to writing it up.

```
100  reset=RESPR(12)
110  FOR i=0 TO 11
120      READ v
130      POKE reset+i,v
140  END FOR i
150 :
160  CALL reset
170 :
180 DATA 78,64,70,252,39,0,32,120,0,4,78,208
```

Here is the listing file of the assembler programme that actually does the resetting. The status word system byte is replaced by the value it has when the processor is reset. A jump to the address in the reset vector does the rest.

```
0000'    4E40    1  TRAP    £0          SUPERVISOR
MODE
0002'    46FC 2700  2  MOVE.W  £$2700,SR  SET SYSTEM BYTE
                                OF STATUS WORD
```

```
0006' 2078 0004    3  MOVE.L    4,A0    RESET VECTOR IN A0
000A' 4ED0        4  JMP      (A0)    DO IT!
                    5
                    6  END
```

Leon Heller

### DISCOUNT DISKS

Computamate, the distributor which handles the CST disk interface, can supply disks to IQLUG members at a considerable discount.

Prices are as follows (packs of 10):-

5 1/4"

40 track	SS/DD	£8.00
80 track	SS/DD	£8.50
80 track	DS/DD	£10.00

3 1/2"

SS	£32.00
DS	£39.00

VAT must be added to all prices.

Mention IQLUG when ordering.

Leon Heller

### ARCHIVE

I am prompted to write to 'QUANTA' again so soon by H. J. Millen's letter on pages 31 & 32 of the April issue. I would like to make a few points:-

Firstly, the 'ORDER' command in ARCHIVE does not physically alter the order of records in a file. It is perfectly possible to ORDER a file at which one is only 'looking' and which is therefore protected against alterations. ARCHIVE maintains a table in memory (don't ask me where!), which holds the relationship between the physical order and the logical order of files. This is analogous to a library author index to books which are actually stored in Dewey Decimal order on the shelves. If a file is accessed by the open command, this table is saved as part of the file when the 'close' command is given, but not otherwise. This saved table is apparent if you COPY a 'dbf' file to 'scr' and are fairly nimble on the CTRL/F5 keys. If you insert records into a file, they are physically attached to the latter end of the file.

The following programme has been used successfully to physically sort a file of over 500 records of 9 fields:-

```
proc sortem
cls
print "Sorting qlrefs_dbf by ascending date"
open "qlrefs"
logical "old"
display
order date$.a
first
Create "flp1_newrefs" logical "n"
title$
file$
author$
date$
source$
vol$
num$
page$
key$
endcreate
use "old"
while not eof()
let n.title$=old.title$
let n.file$=old.file$
let n.author$=old.author$
let n.date$=old.date$
let n.source$=old.source$
let n.vol$=old.vol$
let n.num$=old.num$
let n.page$=old.page$
let n.key$=old.key$
append "n"
print at 12,0;n.date$
next
endwhile
close "n"
close "old"
endcreate
```

Secondly, I have found the "backup" command in ARCHIVE version 2.0 to be very unsatisfactory. It has repeatedly given "incomplete file transfer" messages in situations where the SuperBASIC "COPY" command has produced satisfactory backup. It doesn't seem to make any difference whether "backup" is given as a direct command or within an ARCHIVE programme.

Thirdly, the use of memory by ARCHIVE is rather interesting. Using a straightforward SuperBASIC programme, or a series of them before running ARCHIVE, doesn't reduce the available memory unless the RESPR statement has been used. If it has, RESET first. I still haven't had any trouble with stationary Microdrive cartridges or disks left in the drives when I press the RESET button, so don't feel too inclined to enter

Ivan Krishnan's "Soft Reset" programme! The ARCHIVE manual says that you should only get Error 80 - out of memory if you have a very large programme, and states that the size of a file isn't limited by memory. Well, I have my doubts. Starting with 18462 available bytes, 'looking' at a file 2888 bytes long reduces available memory by 680 bytes to 17962. If the file is 63488 bytes long, memory is reduced by 8102 bytes to 10540 (it makes no difference whether you use 'look' or 'open'. Loading a programme 2028 bytes long reduced memory by 2970 bytes. Further reductions of memory follow after using 'display' and 'order') a partial re-expansion followed 'close', and a complete restoration followed 'new' unless 'find' had been used first. Looking at a physically ordered file seems to use less memory than looking at a logically ordered file.

Finally, congratulations on the new printer. I look forward to entering listings with my Oberon 'Omni-Reader' when all of them are sent to you on Microdrives or disks. Much better than doing it manually!

Colin Wilton-Davies,  
Hilltop,  
St Mary,  
Jersey,  
Channel Islands.  
Tel (0534) 81392

#### **SOFTWARE AND HARDWARE UPDATE**

Prospero Software Ltd., well known for their Pascal and FORTRAN compilers for the CP/M and MSDOS operating systems, hope to have versions for the QL available by late summer. Their FORTRAN is written in Pascal, by the way, which should ensure that it is relatively bug-free. Surprisingly, it is just as fast as Microsoft's FORTRAN, on CP/M machines, which means that the Pascal compiler must be pretty efficient. Their Pascal compiler was, I believe, the first compiler to pass all the ISO validation tests.

Sinclair will soon be releasing their first game for the QL. I've seen an early version running and it's one of those platform-type games where you have to manoeuvre a little figure around the screen, visiting various locations and collecting objects, with hostile thingies attacking you every now and then. It looks excellent, if you're into games of this type. It wasn't written by Sinclair, of course. Apart from QDOS and SuperBASIC, they don't do any software development themselves.

Leon Heller

#### **COMMUNICATIONS**

Has anyone successfully used their QL with a 300 baud modem, and in particular a DACOM Buzz-Box ? Fooled into believing that Uncle Clive actually referred to the standard RS232C specification when designing the serial ports, I acquired a DACOM V21 auto-answer modem. This unit works perfectly with an



APPLE that I have use of, but when used with the QL it produces numerous garbled characters.

An exhaustive series of tests has revealed the following mysteries :-

- 1) QL/APPLE via a direct RS 232 link gives no problems at all except that the QL input buffer will not keep up when transferring large files (using a simple BASIC programme).
- 2) Even if the connections between QL and APPLE are limited to RX, TX and signal ground small files can be received by the QL faultlessly. This rules out any problems associated with handshaking, as although the APPLE comms package supports XON/XOFF my simple basic routine certainly does not, and there are no hardware hand-shake lines connected. The QL has been set to ignore hand-shake any way (i.e. OPEN SER2i).
- 3) The modem works perfectly with the APPLE (running SOFTERM 2 )
- 4) Characters sent by the QL using the modem are received perfectly (by, for example, bulletin boards), but are corrupted on echo back or on being sent by the remote system. So for example you can press E, get a \* on the screen, and yet the remote system acts on the E that was sent.
- 5) It seems that bits are being dropped on the receive side of the QL interface. This is confirmed by the fact that ASCII 64 '@' (0000010) is either received OK or not at all, because if any bit is dropped it either is 0 anyway or results in a null code.
- 6) I have been told that the problem could be due to the fact that the same chip controls both the serial port and keyboard input, so that it occasionally misses a bit whilst it is off looking to see if a key has been pressed. I can not see that this is the case, or the QL/APPLE link with no hand-shake would break down just as badly as when using the modem.
- 7) A possibility is that the voltage swing from the modem is outside the tolerance allowed by the QL. The QL has a swing of +/- 12 volts, the DACOM is only +/- 6 volts. Obviously the 12 volts sent by the QL is more than enough for the modem, but perhaps the modem output is not enough to reliably set the bits on the QL.
- 8) The APPLE has a voltage swing of just over 10 volts from the serial card. A borrowed Miracle Technology WS2000 modem proved to be much, much better, but still corrupted far too many characters compared with using it with the APPLE. What I think I need is a signal amplifier, to boost the output from the DACOM modem. Has anyone got a circuit diagram for such a device?

I have already written a remote operation package which enables me to phone my QL, and ask for Microdrive directories, send and receive files using any other

computer with access to a 300 baud modem. If I ever get the communications problem licked I could offer a dial-up library service for the interchange of programmes and other information, on a very simple QL bulletin board. The Input buffer problem can probably be overcome by using XON/XOFF to package large files into suitable size blocks, with a pause to allow the receiving QL to process the data. Writing the file to a Microdrive file can be done via a virtual buffer in memory. with 128K minus the comms. programme to play with, the incoming file can be passed to a string array, and only written to the Microdrive when complete. Help somebody please! Phone me on Wolverhampton 341333 if you have any bright ideas. Needless to say the first programme to be offered for down-loading would be the QL remote operation system itself. By the way, whilst writing this system I discovered how to receive a string variable back from a procedure, without passing any parameters to the procedure e.g.:-

```
100 DEFine PROCEDURE GET_MESSAGE (dummy$,message$)
110 LOCAL char$
120   message$ = ""
130   REPEAT GET_CHAR
140     char$ = inkey$(#4)
150     IF char$ = nw1$ THEN EXIT GET_CHAR
160     IF char$ <> "" THEN message$ = message$ & char$
170   END REPEAT GET_CHAR
180 END DEFine GET_MESSAGE
```

The variable nw1\$ is set to the appropriate code for new-line (i.e. CHR\$(10) for a QL , CHR\$(13) for most others ). You can then call the procedure to get a string from any device using channel 4 as follows:-

```
10 GET MESSAGE ,string$
```

The variable strings will contain the string received by the procedure. This is very useful when developing a comms. package as while you are setting up your menus etc. you can set the input device to be the keyboard, and when it all works as you intended simply change the channel association to input from the serial port. The procedure can also incorporate a lower to upper case conversion statement to avoid confusion.

Keep up the good work!

Pete Fisher,  
2, Belvedere Avenue,  
Penn,  
Wolverhampton WV4 5TD.  
Tel: Wolverhampton 341333

/\* The voltage swing has nothing to do with your comms problems, since RS232C is specified as working with signal levels between +/- 3V and +/- 15V, and one can often get it to work without true negative-going signals. The Miracle modem was much better than the DACOM Buzz Box because it is a much better modem, using the 'state of the art' AMD single-chip modem device, rather than the 'cheap and nasty' out-of-date Motorola modem chip used in the Buzz Box.

The QL will not handle XON/XOFF protocols reliably, I'm afraid, which is one reason why the OEL QCON (an aptly named device) had a single-chip processor in it. \*/

### ZX MICROFAIR

The next ZX Microfair will be on Saturday 22 June, at the New Horticultural Hall, near Victoria, where the first Microfairs were held. "Ally Pally" was becoming too expensive, apparently. We will be exhibiting ourselves as usual, together with CST, who have booked four stands.

Volunteers are required on the IQLUG stand (free tickets of course, and plenty of time to look round), so please give me a ring if you can help.

Leon Heller

### NUMERIC VALIDATION

The SuperBASIC coercion principle is OK if you know what you are starting with. The best feature of ICL Info BASIC which I have for use at work is the function VAL(X\$, I). This returns the value of a number contained in the variable X\$, starting at character position 1. If there is no valid number the programme does not crash. A REP value can be interrogated directly after calling the VAL function. If the RET = 0 then a valid number has been found. Numeric validation is therefore remarkably easy.

The following demo programme illustrates how a similar function can be written in SuperBASIC:-

```
105   CLS
110   INPUT("Enter number :");test$
115   IF test$="/" THEN EXIT NUMVAL_DEMO
120   numval test$
130   END REPEAT NUMVAL_DEMO
140   STOP
10000 DEFine PROCedure numval (number$)
10010   LOCAL numlen,charpos,charcode,pointcount
10020   numvalflag$= "ok"
10030   pointcount=0
10040   IF number$="" THEN numvalflag$= "error":BEEP 3000,1:RETURN
10050   numlen=LEN(number$)
10060   IF numlen=1 THEN
10070     IF CODE(number$)<48 OR CODE(number$)>57 THEN
10080       numvalflag$= "error"
10080     IF numvalflag$= "error" THEN BEEP 3000,1
10090   RETURN
10100   ELSE
10110     charcode=CODE(number$(1))
10120     IF charcode<45 OR charcode>57 THEN numvalflag$= "error"
10130     IF charcode=47 THEN numvalflag$= "error"
10140     IF charcode=46 THEN pointcount=pointcount+1
10150     FOR charpos=2 TO numlen
10160       charcode=CODE(number$(charpos))
```

```
10170             IF charcode=46 THEN pointcount=pointcount. + 1
10180             IF charcode=46 THEN NEXT charpos
10190             IF charcode<48 OR charcode>57 THEN numvalflag$=
                "error"
10200             END FOR charpos
10210         END IF
10220     END IF
10230     IF pointcount>1 THEN numvalflag$= "error"
10240     IF numvalflag$= "error" THEN BEEP 3000,1
10250 END DEFine
```

Pete Fisher,  
2, Belvedere Avenue,  
Penn,  
Wolverhampton,  
WV4 5TO.

#### HOW LONG IS A PIECE OF (SINCLAIR) STRING?

Ron Humphreys (Issue 2, Volume 2) addresses himself to this question, and I also have had to consider it, but from a somewhat different view-point. At the time I was working on a comprehensive suite of machine code function and procedure extensions to SuperBASIC and had come up against this same problem. (The concept of extensions to SuperBASIC has already been covered in Issue 2 by V. R. Dwight of Helsinki).

There is a theoretical maximum length of  $2^{16}=256*256=65536$  or 64K bytes, as each string is preceded by a two word (=16 bits) header containing the length, in bytes, of the string. In practice though, using the extension function "str\$(a,1)" in a statement like "q\$=str\$(a,1)" I have been able to dump 12K bytes of memory into a BASIC string without any serious repercussions. In this instance "a" would have been an absolute memory address while "1" would have been the length of the field pointed to by "a".

When one comes to dump 16K bytes of memory, there are repercussions in that, I suspect, QDOS packs up. The statement "q\$=str\$(a,1)" is executed OK, but shortly after the simplest of BASIC statements are wrongly flagged as erroneous.

The converse procedure "MEM a,d\$" will also allow a 12K SuperBASIC string. In this case the bytes in d\$ are transmitted to the memory area given by "a". This is in spite of the fact that a 12K area of memory had to be previously reserved, when no such reservation was required for dumping memory into a BASIC string.

The facilities incorporated in the string utility suite may come in handy for anyone dabbling in assembler, and to this end I shall include a brief description of each. There will be some overlap with facilities already provided by others, but for the sake of completeness, these will also be included.

In the following description all arguments will be represented by the simple BASIC variables: L=<length of field>; pointed to by a=<absolute address>;

$i$ =<variable holding an integer value>;  $d$ \$=<string of data bytes>;  $h$ \$=<hexadecimal string>. In addition for purposes of illustration, we have: "for 1=1 to 3: print!Code('zap1(i)); " → 122 97 112 &  $q$ \$ ← Memory bytes from absolute address 0 to 4095.

$str$ \$( $a$ , $l$ )

Dump  $l$  bytes of memory, starting at " $a$ ", into a string. e.g.  $q$ \$= $str$ \$(0,4096)

$mem$   $a$ , $d$ \$

Transmit the data bytes in  $d$ \$ to memory, starting at " $a$ ". e.g.  $mem$  249856, $q$ \$

$mpx$ \$( $h$ \$)

Map a string of hexadecimal characters into a string of code. (Uses its own routine to map hexadecimal representation to code.)  $Mpx$ \$( $'7a6170'$ ) →  $'zap'$

$Mpi$ \$( $i$ )

Map an integer value into a code string.  $mpi$ \$((122\*256+97)\*256+112) →  $'zap'$

$xpk$ \$( $d$ \$)

Peek into a string and produce a hexadecimal representation in string form.  $xpk$ \$( $q$ \$(2043 to 2047)) →  $'C2004A026C'$

$ipk$ \$( $d$ \$)

Peek into a string and produce result in integer form. (Uses its own internal routine to convert long integer values to normalised floating point.)  $ipk$ \$( $q$ \$(2046 to 2047)) → 620.

$xi$ \$( $h$ \$)

Convert a hexadecimal string into an integer value.  $Xi$ (\$ $'7a6170'$ ) → 8020336

$xpm$   $a$ , $h$ \$

Poke the bytes represented by this hex string into memory, starting at " $a$ ". e.g.  $xpm$  249856,  $'7a6170'$

$hx$ \$( $a$ , $l$ )

Hex conversion of  $l$  bytes at address " $a$ " in memory where  $l$  = 1/2/4/0, the default being 4 bytes. If  $l$ =0 then a straight conversion of the value " $a$ " is made. (The QDOS conversion routines are used by this facility.)  $hx$ \$( $xi$ (\$ $'116'$ ),2) →  $'5C40'$

$hxp$ \$( $a$ , $l$ )

A simple hex peek routine with  $l$  being either 4 or 0 as above. e.g.  $hxp$ \$(2043) →  $'004A026C'$   $hxp$ \$(249856,0) →  $'0003D000'$

$boot$

Developmental bootstrap programme to reserve memory etc. (Useful for multiple resets).

zap

Independent job to facilitate soft reset of QDOS. (A more concise version than that appearing in Issue 3 of QUANTA)

I would like to make available all the facilities of the above suite of programmes to members of IQLUG at a nominal price of 5 pounds (cheque or postal order), to include cost of a Microdrive cartridge and a detailed instructions file. And for an additional £2.50 programme listings of the routines for mapping hexadecimal characters to binary data, mapping long integer values to normalised floating point, as well as those for "hxp\$" and 'zap', together with separate documentation on each will also be Included. (If different facility names are required, please specify.)

Ivan Krishnan,  
12, Giles House,  
160 ,Westbourne Grove,  
London W11 2RJ.

### KEYBOARD CAPERS

What follows is a brief guide which should, with a little effort on your part, enable you to connect a 'proper' keyboard to your QL. It is based on my own experiences in attaching an Oric Atmos keyboard to my QL and is intended to help you save time in your efforts. If you don't know why anyone would want to connect a proper keyboard, or you haven't touched a soldering iron in your life, then this is not for you!

There are several problems in this task, not least of which is obtaining a copy of the keyboard matrix. You could, I suppose, write to Sinclair. While you've got the envelopes out, you may just as well write to Santa for a pair of disk drives as both letters should get the same level of response! The alternative is to dismantle your QL, remove the aluminium plate that supports the keyboard, and very carefully copy the matrix directly from the membrane. Fortunately for you lot, I have already performed the latter and a (hopefully) correct matrix is shown in fig 1.

The A and B refer to the connectors that the membrane plugs into. Looking from the front, the one on the left is A with its leftmost pin being pin 1 and its rightmost being pin 9. The other connector is B with similar numbering but it has 11 pins.

The next problem is finding a quality keyboard with similar key legends. Similar layout is, I believe, less important. I chose the Atmos for several reasons; Firstly, the feel was quite good. Secondly, its markings differed minimally even though there were several keys totally absent. Thirdly, Oric had just gone bust and I picked up a brand new Atmos for £60 which is not much more than a good Spectrum keyboard. Looking around, I have made the following observations regarding Keyboards. Most home computers are totally useless. The BBC, Electron, Memotech, Commodore etc.

all use the old fashioned typewriter markings. Keyboards from RS and Maplin also use these markings. The computers that are OK are: all MSX, Apples and most business computers such as the IBM PC. The problem now is getting hold of one of these keyboards. Also, beware of capacitive or Hall effect keys as the QL requires simple contact keys and I don't think the former would be suitable. If you know otherwise please let us know!

There are many sources of suitable keyboards. Try places like Display Electronics (see PCW) or other ex-equipment or OEM suppliers. Some companies sell DIY PC kits and they sell keyboards separately. The Keytronic ones are no good because they are capacitive (and they cost £175!). However, a company called Digitask, advertise an IBM compatible for £89 but you'd better check on their mechanisms (See Wireless World or similar). The third source is your friendly local service engineer who you may be able to persuade to get you one. I must say that I have just tried the latest keyboard on the 'Apple Ile' at college and it is terrific with very minor marking differences. If anybody finds a source of these, or any other suitable keyboard, please write and tell us!

Once you've got it, wiring up is fairly straight-forward if time consuming. If it comes on 4 PCB, don't forget to cut all the tracks! Casing it is left to you.

Connecting it to the QL isn't too difficult thanks to the provision of sockets on the PCB. I made some suitable connectors using two small pieces of Veroboard and some cut down wire-wrap pins. I then soldered a length of 20 way 0.05" IDC cable to the connectors and fed it out of the ventilation slot just above the UHF TV socket after carefully bending it so that it would not place a strain on the sockets when the QL was reassembled. In fact, to make it quite clear, be careful with the sockets since they are quite weak. I decided to fit a socket here to give me more flexibility when moving the QL about. A plug attached to the remote keyboards cable finished it off.

A problem I encountered now was not one I had anticipated (No, my QL did not blow up!). Quite simply, I hadn't considered the logistics of actually fitting it on my desk and having easy access to the Microdrives. The best solution found was to place them side by side with the QL on the left but, obviously, do what is best for you.

I hope all this helps you and I'm sure anyone who is considering fitting a proper keyboard will be grateful for any tips you may discover. In particular, any answers to the several questions scattered throughout would be appreciated.

Mark Norton,  
138, Newlands Road,  
Stirchley,  
Birmingham. B30 2RH

/\* I'm very sorry about this, but I've mislaid Mark's diagram of the keyboard matrix. \*/

### **PUTTING QUANTA TOGETHER**

Now that I have a daisy wheel printer, and many of you are sending contributions to me in the form of Quill files, an account of how I currently put the newsletter together might be of interest, and might result in more of you sending in your contributions in machine-readable form.

Quill document files are read into Quill, and paragraph breaks indicated by a pair of slashes, "Ha. I then print the document to a file, leave Quill, and run a programme written in C called ddespacea. This is a "filters programme that takes an input file and outputs it to a new file with multiple spaces collapsed into single spaces, and all the line feed characters removed. In effect, it removes all the justification put in by Quill. I then transfer this file, consisting simply of words, separated by single spaces, with paragraphs indicated by double slashes, to my model II TRS-80, running CP/M, via a serial link between the two machines.

Once the file is on disk on the TRS-80, I simply read it into Wordstar, convert all the double slashes into double line feeds, edit it if necessary, and format the document, ready for merging with the main QUANTA file. The whole process, from inserting the Microdrive cartridge in the QL, to saving the Wordstar file on the TRS-80, takes under five minutes for each document. I will probably speed it up a bit by modifying the "despace program to generate Wordstar-compatible paragraph breaks.

When I am ready to print the QUANTA document file, I read it into Wordstar for a final check, adjusting page breaks if necessary so as to avoid 'orphan' and "widow" lines, and then print it out on the EXP 500 daisy wheel, using A4 fanfold paper. Contributions submitted in printed form are cut up and pasted onto A4 sheets. The wodge of 40 sheets or so is then given to Brian, who types in the page numbers (he's got a better typewriter than I have), and gives it to the printer. He reduces each page to A5, using a photocopier, which also makes the masters for the printing operation, done on offset litho machines. This is a cheap way of doing it, but the quality suffers, so we might ask the printer to get proper litho plates made.

Now you know how QUANTA is produced, please send your contributions on Microdrive or disk, if possible, as it enables me to produce a much neater newsletter, and I greatly prefer messing about with computer files to using scissors and sticky stuff!

Leon Heller

### **PHOTOGRAPHING THE SCREEN**

I recently needed to photograph the QL display, and had to do quite a lot of experimentation to get acceptable results. The following tips might help other members.



An SLR is advisable, to avoid parallax problems.

Since the photographs were for publication, I used a medium speed black and white film, to ensure good contrast and resolution.

A slow shutter speed is essential ( $> 1/30$  second), as is a tripod.

If the screen is fitted with a filter, remove it.

Stop the lens right down, to ensure a good depth of field, otherwise the screen curvature might cause focusing problems.

Darken the room to prevent unwanted reflections.

The QL is very useful when doing your own processing, as a simple programme can be written, telling you when to invert the tank, pour in the various solutions, etc.

Slides for presentations can easily be made by photographing. Easel screens, with colour slide film.

Leon Heller

#### **MICRO PERIPHERALS DISK SYSTEM USER REPORT.**

About three weeks ago I decided it was time I took the plunge and gave my QL the benefit of disk drives. Not that I've had any problems with the Microdrives, its just that I'm fairly disorganised and keep losing track of which particular programming masterpiece is on which tape and end up juggling ten or twelve tapes at a time)

So, with the help of my flexible friend and Metyclean Ltd of SW1, I became the owner of Micro-P's disk interface and matching 3 1/2' drives.

The complete system consists of the interface, drive 1 (with power supply) and drive 2, which gets its power from drive 1.

Fitting the interface was no problem once I had removed the two small plastic lugs just inside the expansion port. The interface fits neatly in the port increasing the overall length of the QL by about 2". On powering up the system the screen prompts for TV or monitor in the normal manner but also announces the presence of Micro-P's disk system version 3.

The interface and drives match the colour and styling of the QL well: the drives themselves are tiny, not much wider than the neat little 3 1/2" disks they take and clearly marked 1 and 2 so even I can keep track of which is which.

With the interface in place several new commands are available. I slipped a new double-sided disk into drive 1, typed: FORMAT FDK1, and less then 2 minutes later the message '1434/1440 sectors' appeared ; that's just 3k short of 720k!

I can now put QUILL and 6 Microdrive's worth of doc files on one disk and know exactly where it all is, no more juggling!

Existing software can be run without modification by fitting a jumper on the interface card. The effect of this is to make all references to 'mdv' treated as 'FDK', this can be over-ridden when required by typing FSET and restored by typing MSET: clearly explained in the (preliminary) manual supplied.

All of the Psion version 2 packages can be run this way, or by using the CONFIG\_BAS program supplied by Psion. I was also able to transfer Metacomco's excellent assembler package to disk using their INSTALL program. QL Chess and Talent's Zkul can be loaded from disk much more quickly than before, but this advantage is offset by the need for the original Microdrive tape to be in Microdrive 2. That is a pity, but I don't suppose Psion or Talent are going to tell me how to get round this protection even if I promise not to misuse it!

To really appreciate the speed of disks over Microdrive you have to remember that SuperBASIC programmes are subjected to some fairly detailed error checking as they are loaded, but when you EXEC or EXEC\_W a machine code programme then the disks really excel.

Two useful commands provided in the Micro-P interface ROM are DGET and DPUT which enable one to assign the contents of a specific 512 byte sector on disk to a one dimensional array and to write it back, this is what random access is all about should enable the writing of some very good database software.

In some ways I've left the best 'till last, because with this package comes a single-sided disk with a number of BASIC and machine code utilities that are only partially documented in the manual. Micro-P do tell you about DAME, a disk and memory editor and COLPRINT, a programme to dump a Mode 4 screen to a colour printer. As its name suggests DAME enables the user to examine a disk or memory and edit the contents. In theory it should be possible to recover a corrupted disk with this facility, always assuming you know what the data should be. The COLPRINT programme seems to be designed particularly for dumping Easel screens to a colour printer but contains some very useful procedures which when in memory can be invoked by typing commands like LLIST, HT or VT to name but three. I can see this proving useful even to those of us who don't have a colour printer.

What Micro-P don't tell you is that there are also utilities to get an extended directory of a disk, to spool printer output, to backup a disk or tape (with or without overwrite), to inspect a file and a couple of others that I've not entirely fathomed yet.

PEEKing around in the interface ROM also reveals a WSET command, (I seem to remember reading somewhere that there may be a Winchester on the way?) and a HX\$ command, which simply converts a decimal number to hex. Examples of its use along with the DGET and DPUT commands can be found by listing the DAME programme.

To sum up, this package works well, the firmware links into QDOS without the need to load software from Microdrive (not true of all QL disk systems) and also looks good. If Micro-P can extend the manual to include information on the whole utilities package they are on to a winner.

Mike Dadswell,  
25, Porter Road,  
Basingstoke,  
Hants. RG22 4JS  
Tel:- (0256) 50535

/\* I doubt if the WSET command is anything to do with a Winchester, as hard disks require a completely different interface. It is probably something like width Set.  
\*/

#### **REVIEW OF ZKUL BY TALENT COMPUTER SYSTEMS**

With the hundreds of programmes promised by Sinclair still "coming soon" it is a pleasure to note that at least some games already exist. This is the case with the adventure Zkul published by Talent Computer Systems. I do confess that I am rather taken with this adventure.

The fun starts even before any action is hinted at, just by looking at the superbly drawn and finely detailed title screen. Unfortunately that is all the images one gets out of this adventure, as it is text only. The text does however impart the atmosphere rather nicely and, so far, no spelling mistakes in sight. I am not a very experienced adventurer so probably the puzzles that took me quite some time to solve will be felt rather easy to do by those who could finish the Hobbit in a couple of hours. One thing I like about this adventure is that the puzzles seem to become more difficult as one goes on, the first one being how to get onto the main playing area, without also getting killed. The adventure is quite large, with about 200 different locations, according to Talent, which I am still far from having all explored. There are plenty of occasions to draw maps and get oneself killed, which happened rather often to me. Even though I am presently stuck, I am not in desperation yet (any hints would be welcome though). The object of the game is simple enough : get as many treasures as you can and bring them to a certain place. I appreciated the touches of humour throughout the game. Thus the adventure has a "what is" facility, i.e. you can ask the computer what is a certain object which you might encounter during the game. Should you however ask the same question about a totally ordinary thing, such as a tree, you will get the answer that if you don't know what "tree" means you sure are in trouble... Also try some four-letter words and see what happens.

In short I found this a totally enjoyable adventure, which, for me, has that rare 'come back' appeal, which makes you to go back to the game every so often, and, once you're at it, unwilling to leave it.

Moreover, as I mentioned above, I was recently stuck in the adventure and so I decided to call upon Talent to give me some rather detailed hints. I was surprised and delighted at their speedy and polite answers. That's what I call after-sales service) Full marks to Talent for a good game and an equally good query department. I'm going to get their other adventure, 'West' as soon as I can.

Wolfgang Lenerz  
5, Passage Thiere,  
75011 Paris,  
FRANCE

#### **A BETTER CARTRIDGE TIDY**

Take ten to twelve Microdrive cartridges, box them alternately back-to-front, secure them with two stout elastic bands, the size used by the Post Office to secure bundles of letters are ideal, and you have the most compact and convenient cartridge tidy on the market!

John Tanner  
43, Northumbria Drive,  
Bristol.  
BS9 4HL  
Tel:- 0272-623401

#### **A contribution to the Sinclair customer support saga.**

My DO-6 QL with an AH ROM (1.03 on MT.INF) recently developed problems with mdv2\_. Since I also had difficulties with the 'call' bug I attempted, before returning the machine, to find out if there was a patch to deal with the bug or, if not, whether an updated ROM would help, the drive repair giving an opportunity for a refit. I discovered the following.

Camberley can NOT answer technical queries. There is a technical person there but, according to MS. Hyde of Customer Relations, Cambridge, "He is not an engineer". I made a number of phone calls before I was eventually referred to Cambridge.

Customer Relations, Willis Road, Cambridge, were most prompt and helpful; true, no technical information was provided but I was at least pointed in the right direction quickly.

The repair to the machine deserves special mention. I had it back just eight days after posting; the drives work, the ROM is now a JS 1.10 and on the basis of a quick test the call bug is no more. Also included was a second set of Psion software; and whilst viewing the new ROM with some apprehension I can only say that I am very pleased with the support service.

E G Whitbread,  
5, Bideford Gardens,  
ENFIELD.  
Middx. EN1 2RP

## LETTERS IN DRAFT AND FINAL TYPEFACE

A tip from PSION for setting the typeface. by loading the printer driver, in the TRANSLATE FIELDS, with a little used character, e.g. ©. (copyright), one can print out the draft of a letter at top speed and, when satisfied with the text, you type this character at the start of the letter before printing the finished thing. The character will not be printed, so you have to allow for its omission both in the spacing and also be sure that it is not in the body of the text. You can also use the characters in midstream, to change typeface.

To load the printer drivers, see page 3 of the information section of the manual. The input which I used was "©,27,69 which translates to ESC,E in the driver. the quote at the start is needed, otherwise the QL rejects the character on its own. You can also load other commands, eg to cancel the "Emphasise On", but you soon find that you run out of "Unused Characters".

I also have written a standard letter heading, (down to Dear Sir) and saved it. This saves quite a bit of time because of the tabs and / or insets needed to set the heading out.

C. MASKERY, BELPER, DERBY.

### Pounds and Hashes

Congratulations on the new format! It is so much better and now shows the Newsletter to be what it is - Quality from cover to cover.

Right, now onto other things. I send you this letter in the hope that other users can now have no excuse in their own works of art of using the pound (£) sign instead of the hash (#) sign when referring to channel numbers

Most printers will only support one character set usually set by DIP Switches, and the user must decide whether he/she wants the pound (UK) OR the hash (USA) signs to print properly. This then means that the other sign appears transposed and has to be tolerated, as, on most printers, access to the switches is by taking off the covers - not very convenient.

Some printers, including my Epson RX80 F/T, allow you to override the settings by sending an instruction to the printer. So, first having set the DIP switches to UK, I have set the Translate facilities on my printer drivers, up as follows which, as you can see, allows printing of both "£" and "#" on the same piece of paper.

Preamble Code : ESC,@, ESC,E, ESC,R,NUL  
(Reset), (Bold), (U.S.A.)

The Bold is for my preference for emphasised print only.

Translate 1: £,ESC,R, ETX,#,ESC,R,NUL  
This puts the printer into UK, prints a £,  
and then returns to USA.

The Preamble sets up the printer to print "#" instead of "£" via the USA character set and the Translate 1 reverts to UK, prints a "£" and resets back to USA.

I hope this helps some of you although I know a lot of printers might not be able to do this.

Ken Huber,  
36, Hayes End Drive,  
Hayes End,  
Middlesex. UB4 8HD

#### **BAD OR CHANGED MEDIUM ?**

I have, on many occasions, been subjected to this accusatory message.

My experiences and those of QL owners who have been unable to read all of the material on cartridges I have provided to them have led me to a conclusion for which I do not have proof but I have a firm conviction concerning the cause.

I believe the problem is mainly incompatibility between different machines in the way they write to Microdrive cartridges. Writing a directory file or saving an extra programme on a cartridge formatted and written to previously by another QL seems to corrupt one or more existing files so that when an attempt is subsequently made to read the files the above error message results.

My boot programme writes a directory file in order to achieve the Automenu function. In future I shall recommend the practice adopted by Psion (perhaps for the same reason) that a copy of the cartridge should always be used for the working copy.

Incidentally, it is interesting to note that QDOS can read a file which has not been written! I noticed this using XDIR which, quite reasonably, warns that the cartridge for which it is proposed to prepare the extended directory should not be write-protected since the programme writes the directory to a file on the cartridge and then reads same. The programme does function quite happily with write-protected cartridges and only generates a passing error message having tried to delete the non-existent file. Presumably the content is actually read from the write buffer rather than the file itself.

John Tanner  
43, Northumbria Drive,  
Bristol. BS9 4HL  
Tel:- 0272-623401.

#### **PAYMENT WITH ORDER IN ADVANCE FOR GOODS**

i was asked the other day by Alan, an IQLUG member, what his rights were when paying in advance for goods and the seller then going bankrupt or into liquidation. You will appreciate that the circumstances and the names I use are entirely fictitious, and if they resemble any person or company that is entirely accidental.

Assume Alan had ordered a micro add-On, which I will call a Beta, from a company called Cut down Ltd, a most appropriate name, since, although it took his money for the Beta, promising delivery within 28 days, it went into Liquidation before anything was delivered. I propose to consider three separate situations qualifying those facts.

A) The cost of the beta is not material and Alan paid Cut down Ltd. for it with a cheque when he ordered. The cheque was debited to his account before Cut Down Ltd went into liquidation. There is no difference if he paid for it in cash or with a postal order.

The money having been paid in advance, Cut down Ltd, when it went into liquidation, owed Alan the money. Alan is thus a 'creditor' of Cut down Ltd. and has been ever since the money was paid. However Alan is not a priority or secured creditor so he has to join with all the other unsecured creditors to salvage whatever is possible from the ruins of the company. He will get paid pro rata to the other creditors when the liquidation is complete and after the

liquidator has taken his expenses of the liquidation, and will be lucky to receive 10p. in the pound.

The moral to the story is do not pay the full amount in advance, by cheque. If you must pay by cheque, either insist on payment upon or after receipt of the goods, which can often be negotiated, as after all, the seller wants to sell, or pay only a small proportion of the full, price by way of a deposit with the balance to be paid on delivery (perhaps by C. O. D. - Cash on Delivery) Or, better still, 30 days after delivery.

B) The cost of the Beta was £100 or less, say £95, and Alan paid for it by asking Cut Down Ltd to charge his Credit Card when he dispatched the Beta to him, but Cut Down Ltd. Charged his Credit Card before it went into Liquidation. Cut Down Ltd. were wrong to charge Alan's Credit card account before the goods were sent and it may well be that Alan would have a remedy, in fraud against the person who charged the account, or the Director who authorised the account to be charged, but it would be very difficult and expensive to prove. and, probably beyond the ability of anyone doing the work themselves in the small claims Court unless they were very experienced, and, the amount being £100 or less, It would not be worth engaging a professional lawyer.

There is a possibility that Alan would have a remedy against the Credit Card Company, (provided it not American Express or Diner's Card), under section 83 of the Consumer Credit Act 1974. That section provides that Alan shall not be liable to the Credit Card Company for Any loss arising from use of the credit facility by another person not acting, or to be treated as acting, as Alan's agent.

If Alan ordered the Beta over the phone just giving his credit card number and his address, but without signing any docket or receipt, it might be possible to argue that Cut Down Ltd was neither Alan's agent nor to be treated as his agent. However the point has not, so far as I am aware, been considered by any Court and I can see strong arguments for saying that Cut Down Ltd should be treated as acting as Alan's agent for, after all, he did authorise it to debit his account at the moment the beta was to be dispatched. In many uses it will be necessary to see and construe this terms of the agreement between the Credit Card Company and the individual before any sensible advice can be given about whether the supplier will be treated as acting as the agent of the credit card holder.

If, when ordering, Alan had just given his credit card number without stating that it could only be used at the mount of dispatch of the Beta, then I have little doubt Alan could not invoke section 83 since he would have authorised Cut Down Ltd. to use the credit card when it wished.

If fraud cannot be proved and section 83 is of no avail, then the only remedy is the same as described above under example A).

C) The facts are the same as under example B) but the Beta cost over £100  
Say £105.

In this case, however, in addition to the rights, if any, described above under example B), Alan has a much more effective remedy. If Alan has any claim against Cut Down Ltd for breach of contract he has the same claim against the Credit Card Company. However, this only applies where, in respect of a single item, the seller, in this case Cut Down Ltd., has attached a cash price over £100 and less than or equal to £30,000. It is of no use where the item sold is £100 or less. Accordingly, Alan can sue the Credit Card Company, and will almost certainly recover all that was debited to his account as it is unlikely the Credit Card Company will be going into liquidation. However, this only applies to Credit Card Companies that do actually give credit rather than insisting upon payment of the whole account each month, so American Express and Diner s Card are excluded. (Section 75 of the Consumer Credit Act 1974, as amended by the Consumer Credit (increase of Monetary Limits, Order 1983, S.1. 1983 No 1878).

The conclusion must be that if you are purchasing any item over £100 in value and you are asked to pay in advance, then it is far more safe to buy using a credit card other than American Express or Diner s Card. If it is £100 or under then do your best not to pay anything in advance, but if you cannot avoid it then only pay a minimum deposit. There is no reason why you should not agree to pay C. O. D. If the seller is really concerned about getting his money.

A barrister-at-law.

**'QUICK QL. MACHINE LANGUAGE' by Alan Giles M.A.  
published by MELBOURNE HOUSE at £7.95 ISBN 0-86161-181-0**

The title suggests a new way of teaching machine code or maybe a collection of useful routines to incorporate in your own programs. In fact the book contains two SuperBASIC programmes; an assembler and a disassembler. The one machine code listing in the book is a simple replacement for the SuperBASIC CALL which is defective.

The 740 line disassembler is printed twice. The first is interleaved with a line by line commentary on the machine code instructions which are being decoded. This is an unusual approach to teaching machine code which might appeal to some. The listings are taken directly from a good quality printer and even show the spaces in PRINTs.

The assembler consists of 1500 lines of uncommented code. The author suggests you could find out how it works when you understand the listing of the disassembler. The assembler includes an integral line editor and you can save/load files of assembler source. It does not support macros.

Unless you have used assembly language and an assembler before, you may not find the assembler instructions very helpful. The section describing what you do with the assembled code is also confusing.

IQLUG members can obtain an excellent assembler with machine code speedup extensions, more pseudo ops and also a text editor, from the IQLUG programme library for just £2. For them the assembler is of little value and the book cannot be recommended.

For anyone, the prospect of typing in 2240 lines of code is daunting and the publishers are surely misguided in publishing programmes this way.

Gerard Phelan,  
17, Gunnersbury Court,  
Bollo Lane,  
LONDON  
W3 8JL

**VIA WESTERN UNION TELEGRAPH,  
TO HERR DOKTOR DOKTOR PROFESSOR D. UMMKOPF  
DEUTSCHES INSTITUT FUR KOPFVERBINDUNG UND MEDDLESCHMERZ HIDLBUGR**

FROM GROUP SEX GROUP  
SOUTH—SOUTH WESTERN UNIVERSITY (Q & L)  
KINSEYTOWN  
NOO JERSEY

YOUR GARBLED REPORT APRIL QUANTA SHAMELESS ATTEMPT STEAL QDOS OUR  
ORIGINAL RESEARCH IN HUMAN NETWORKING HEADED BY PROFESSOR IVALOT.  
LAWSUIT SUSPENDED ONLY DUE TRAGIC DEATH IVALOT, LAST WORDS QUOTE -  
WHAM BAM : THANK YOU RAM - UNQUOTE.

SIGNED DR HELLER V. NOTE (2 END ON).



## COMPUTERS AND MUSIC

I wrote to Lancaster University congratulating them and posing a number of questions about the work they are doing on music and computers (as shown on TV). The following is an extract from a reply kindly written by R. M. Adelson of the Centre for Research into the Applications of Computers to Music, Lancaster University LA1 4YW. He added that anyone is welcome to their Open Day on 27th April at which the system will be shown. I suppose there is a real need for good graphics, because one wants as much music as possible on the screen at any one time, both in number of bars and staves.

Bill Cowhig

'To take up your point about 16 versus 8 bit microprocessors, we are not ourselves persuaded of the virtues of a pseudo 16-bit machine like the QL, and real 16-bit machines are still relatively expensive. We find that the limitations with the BBC computers are more connected with the total available RAM than its BUS widths - in fact on several speed benchmarks the BBC can beat the QL despite its 8 bits. Furthermore the BBC highest resolution graphics offers better resolution than the QL, though we are not at the moment using the highest resolution available. We have been exploring the possibility of increasing even this resolution, but at this point one is starting to come up against the limitations of standard monitors which are, of course, built to TV standards. To upgrade to a very high resolution (e.g. 1000 line system) would require not only more RAM but special monitors, which are very expensive compared with the standard ones. Whereas this might be justified for say a music publisher who wishes to use computers for assistance in his composing work, we cannot feel this sort of expense is justified for our immediate concern.

We went into the choice of computer for our work with some care at the outset and chose the BBC micro on account of its wide availability; its excellent operating system; its very good graphics capabilities and (definitely last) its sound system. We are currently developing an independent sound system which we hope will overcome some of the drawbacks of the present one.'

### The 'QL League'

I have compiled a database of published articles, programs, reviews and letters about the QL which have appeared in British magazines in 1984 and 1985 (inclusive to May 1st.) Only those publications which I feel may have some value as references have been included -- I have left out comparisons with BBCs and Spectrums unless they are quantitative, also complaints of late deliveries! My choice of magazines has naturally been confined to those which appear in local newsagents (with the exception of "QUANTA"), and when a magazine disappears from these shelves, I have no idea whether or not I am missing some useful articles. Bear this in mind particularly when considering those magazines at the bottom of the 'League', especially if you have Subscriptions or advertisements in mind.

<u>Magazine</u>	<u>QL. References</u>
Quanta	116
QL. User	104
Popular Computing Weekly	100
Sinclair User	46
QLUB News	31
Personal Computer News	29
Personal Computer World	22
Your Computer	17
Your Spectrum	9
Home Computing Weekly	5
Practical Computing	5
ZX Computing	5
Electronics & Computing Monthly	4
Which Micro?	4
Micro Decision	2
Sinclair Answers	2
Soft List	1
What Micro?	1

Colin Wilton-Davies,  
Hilltop,  
St. Mary,  
Jersey,  
Channel Islands.

#### **SUPERBASIC EXTENSIONS**

I think it would be a good idea if we could adopt a common format for the development of PROCedures and FUNctions in assembly language in order that users may select only those PROCedures and FUNctions required for particular activities. May I suggest the following format and standards be adopted in order to simplify processing of assembly language PROCedures and FUNctions.

- 1) In a single, source, unit, only one PROCedure or FUNction will be defined.
- 2) The defined PROCedure or FUNction will begin processing from the first byte of the code.
- 3) No linking of the PROCedures or FUNctions will be performed by the code itself. This will be handled by an external module.
- 4) The code will not rely on any other PROCedures or FUNctions being present. In other words the code for a single unit will be entirely self contained and capable of independent existence.
- 5) The code will be position independent and preferably re-entrant, although the latter is not an absolute requirement.

Under these rules, it would be quite possible to write a small, SuperBASIC utility to hook together any combination of files containing the binary code of the PROCedures and FUNctions. The SuperBASIC utility would not be very complicated but would allow a librarian to configure, relatively easily, any possible combination of PROCedures and FUNctions maintained on backing store. Another advantage of this system would be that a user would be free to choose the names of each PROCedure and FUNction used according to his or her own desires.

I would be willing to write the utility required to handle the hooking together of all the bits an pieces, and probably, by the time you read this, it will already exist. I think it would be of great benefit to the users if this kind of facility was available, although it may create some problems for

the librarians. I do feel, however, that after a fairly short time, we could have several hundred very useful PROCedures and FUNctions available and there just isn't enough memory around to support holding them all at once in the same machine. With a decent configurator it would be possible to select only those PROCedures and FUNctions required by each individual user. Please let me know how you feel about this.

**"AND NOW FOR SOMETHING COMPLETELY DIFFERENT."**

I own copies of the books by both Adrian Dickens and Colin Opie and have just found a serious error in Colin Ople's book. Page 20 (ASL) & (ASR), page 29 (LSL) & (LSR) and pages 36 and 37 (ROL), (ROR), (ROXL) & (ROXR) All state ... "Data size is always word." This is not correct. It is true that data size is always word if the destination is memory, but in the case of a data register, the data size may be byte, word or long word. It also states on the back of the book "Colin Opie's book is an accurate and comprehensive guide" etc. THIS IS A LIE. Colin's book is not accurate for the above reason and is certainly not comprehensive as it misses out information about linked lists, 50/60hz interrupts etc.

I have wasted a great deal of time on the above misinformation and am returning my book to the publisher for a refund under the sale of goods act and an apology for foisting such stuff on the public. Perhaps other members would care to do the same, it might improve the quality of, what is supposed to be, reference material.

V. R. Dwight,  
T:im, Softronic,  
Suvikuja 3B14,  
02120 Espoo 12,  
Finland.

\*/ /\* Tony Tebby's Mk. 2 Toolkit will have a linker, like the one described by Ron, he tells me.

**BEGINNERS' SECTION**

May QUANTA continue to flourish and Leon & Brian never get too overworked to look after our interests. As Peter Tatton-Brown says, the nuggets of gold here and there make every issue worthwhile. As a beginner though, I find the beginner's articles harder to comprehend than the manual. Most of what one needs is there, it's just presented in an obscure way (apart from the deliberate mistakes!). The sort programme for instance, on page 109, is not captioned as a sort and yet it is far superior to the usual bubble sort.

I am one of those single key-press fanatics and members might find the following short programme useful which includes much of what has already been written plus a bit more. I use it for searching an ordered array using an abbreviated name and INSTR function. If a second is too short a time to press the keys then use a bigger number with INKEY\$. If you make a mistake, press SPACE bar. LINE 100 would normally be in your main search PROCEDURE.

```
100 entry$="": findname: print entry$
110 DEFine PROCEDURE findname
120     CLS #0
130     REPeat outer
140         REP inner
150             i$=INKEY$(50)
160             IF i$="" THEN
170                 EXIT inner
180             ELSE
190                 entry$=entry$ & i$: PRINT #0,i$;
200                 IF CODE(i$)=32: entry$=""
```

```
210          END IF
220          END REPeat inner
230          IF entry$>"" : EXIT outer
240          END REPeat outer
250  RETurn
260 END DEFine
```

Apart from business uses, I store biological data from Nature Reserves and prepare master checklists of all species which I then use to record actual species found, with a minimum of key presses. Because many of these lists are large I need to prepare them in stages. The following (abbreviated) programme allows me to:-

- (a) see the line I finished with last session,
- (b) enter repetitive genera with a single key press,
- (c) correct a mistake and
- (d) make sure I don't exceed the array length. Most important of all, I automatically enter at the point I left off.

```
100  DIM name$(2000,35): name$(0)=0
.....
300  REMark ----- ENTER DATA -----
310  DEFine PROCedure start
320  IF name$(0)>0: x=name$(0): aline
330  FOR x=name$(0)+1 to 2000
340  cls#0: INPUT #0,' ENTER -repeats, SPACE/ENTER-mistake,
SPACE/SPACE/ENTER-exit' 'Generic name, then specific name\'
.....(35).....\ Gener$
350  IF gener$="": gener$=gen$: PRINT #0,gener$;
360  IF gener$=" ": name$(0)=name$(0)-1: GOTO 320
370  IF gener$=" " : EXIT x
380  gen$=gener$: PRINT x TO 10;gener$
390  INPUT #0,!Spec$
400  IF spec$="": spec$=sp$: PRINT #0,!Spec$
410  sp$=spec$: PRINT!Spec$
420  name$(x)=gener$ & " " & spec$: name$(0)=x
430  END FOR X
440  menu
450  END DEFine

2000 DEF PROCedure aline
2010 PRINT x TO 10; name$(x)
2020 END DEFine
```

I prepare my screen(Sanyo green-screen) by :- OPEN #1,scr 509x200a2x1: INK #1,7: PAPER #1,2

This saves putting a border round, as it preserves the Sinclair one intact.

Don Smith,  
Westland, Westfields,  
Kirkbymoorside, York.

**FOR SALE**

Sinclair QL, Microvitec monitor, Quest expansion RAM and various accessories. Brand new condition. First offer over £550.  
Phone 01-278 0869 (days and evenings) and ask for David Keeling.

## REVIEW OF METACOMCO QL PASCAL

Metacomco's QL Pascal is supplied on two Microdrive cartridges and an EPROM that plugs into the ROM socket. The EPROM is needed because of the size of the compiler, which is too big to fit into the 128K available on the basic machine, and even has to use some of the screen memory when running!

One cartridge contains the compiler, and the other contains the standard Metacomco editor, a linker, and the run-time library. A large manual is supplied.

The compiler generates native 68000 code that, after linking with the runtime library, and any other modules, results in a machine code programme that may be EXECed in the usual manner.

When I received the package, I first inserted the EPROM. The EPROM must be in place, otherwise the compiler won't work, and quits with an error message. If "ROM" is typed, at QDOS command level, and the EPROM is OK, the message "GOOD ROM" is returned, which is reassuring. Since I have disks, I immediately transferred all the files onto floppy disk, and wrote a simple test programme and tried to compile it. I then encountered my first problem - the compiler didn't seem to like writing files to disk, although it would write them quite happily to a Microdrive. I told Metacomco about this and they said they knew of the problem, and would be sending a patch in the post. In the meantime I tried a few test programmes, running the compiler and linker from disk, but writing the intermediate files to Microdrive, and they all seemed to work OK, but for any serious applications expansion memory will be essential, as otherwise only relatively small programmes may be developed. It doesn't seem possible to get round this restriction by splitting large programmes up into separately compiled modules, which some compilers allow, although external BCPL and assembler modules may be linked with a Pascal programme.

When the patch to give proper disk operation arrived I found that it worked fine, except that the compiler did not now like recursive programmes, and quit with no error messages, and an incomplete listing file, if recursion was used. I also found one or two other bugs, the most serious of which was that division by zero resulted in a total system crash at runtime. I feel justified in mentioning these bugs, although I was given a beta test copy, as this was identical to the review copies sent to the magazines. Purchasers of the package should have no problems, as these and other bugs should be rectified before the software is generally available.

The compiler is quite fast, and seems to identify where syntax errors have occurred quite well, but, like most Pascal compilers, only gives an error number, necessitating a search through the list of error codes in the manual. Meaningful error messages would be nice, but would probably take up too much memory.

The linker does not conform to Sinclair's SROFF specification, but does allow Pascal routines to be combined with BCPL or assembler routines.

Although Pascal is not my favourite language, this is an excellent implementation, and is claimed to conform to the ISO standard, so should produce programmes that will compile on any other machine that has an ISO Pascal compiler. Features specific to the QL and not in the ISO standard, such as graphics, are provided in an additional library, and may be used by selecting an appropriate option when compiling. The draft documentation I received was quite comprehensive, but a good textbook on ISO Pascal will be required by most users.

Code produced by the compiler is quite compact, although the fact that the entire runtime library appears to be linked with it, means that the resultant executable programmes are a minimum of 22K or so in size. The EPROM is not needed at runtime, and there are no restrictions on the distribution of programmes containing the runtime library, so the sale of programmes produced with this package shouldn't cause any licensing problems, unlike programmes produced with the P-system (UCSD Pascal).

My main reservation about QL Pascal is the limited precision of the floating point - it uses the QL's built-in floating point package, and only gives about six digits of precision, which is totally inadequate for serious use. Anyone using it to develop an accounts package would need to write their own fixed point routines using the long integer data type. This had to be done with Apple Pascal, anyway, so it shouldn't be too hard finding suitable routines.

Apart from this caveat, QL Pascal is very suitable for serious use; it produces quite fast, reasonably compact code, and is very easy to use. It's ideal for computer science students, many of whom now learn Pascal as a first language, as the QL is probably the cheapest machine that runs a full ISO Pascal, and anyone else requiring an efficient, easy to use, block-structured language. It costs £89.95 (including VAT and postage and packing) from:-

Metacomco,  
26, Portland Square,  
Bristol BS2 8RZ.  
Tel: (0272) 428781

QUANTA members get a 20% discount, provided they enclose the most recent label from the newsletter envelope.

Leon Heller

### **ARCHIVE BUG**

The file pointer does not work properly, therefore some of the "order" commands malfunction. The "all" - "endall" loop takes the file in its order on the Microdrive, not the sorted order. If 'append' or 'delete' are used within a procedure the pointer returns to the first record. Psion have I believe corrected the fault and I am informed by Sinclair that the 2.1 version is being tested now, but there may be a charge for it, which to me seems a bit steep!

John Macdonald,  
22 Victoria Street, Haslington,  
Rossendale,  
Lancs.  
Tel: (0706) 21/647

/\* I too have heard that a new version of Archive with some of the bugs removed, and several additional features, might be released soon. The additional features might make it worth the money, if it has to be paid for. \*/

### **APOLOGY TO FRANK HOPE, PETERBOROUGH, FROM BRIAN PAIN**

Frank rang through an offer of help to members who were struggling with some of his code. I jotted this down on a pad and completely mislaid it. On seeing John Tanner's contribution I hoped this would help! with over 1000 members and seven days a week telephone access I know mistakes will be made at my end. This was one of them! Sorry, Frank

Brian Pain

/\* This matter has been covered elsewhere in this issue. I'd already printed it when I got the above apology from Brian. My previous comment bears repeating - send material for QUANTA to the editor, please!!! I'm no more infallible than Brian, but with only one person to get it wrong, the probability of a mistake is reduced. \*/

### **A SATISFIED CUSTOMER**

Many thanks for your assistance with my problem with a claim for a refund from Uncle Clive.

As you will recall, this was the second faulty QL I had returned within the initial guarantee period. After speaking to you I 'phoned Ms. X at Sinclair and agreed to accept a new "JS" QL with new warranty. It did not arrive as arranged and I had to 'phone Ms. X again. This time she personally got a new unit sent off to me by Datapost and it arrived the next day. But... no monitor cable, and the Quill cartridge kept leaping out of the Microdrive whenever I tried to load the programme. Back to Ms. X again. Next day a new Quill cartridge and a monitor cable arrived, without a DIN plug for the monitor! Uncle Clive's ears should have been charred.

Well, eventually everything turned out fine, as I found a suitable DIN plug around midnight, and the 'JS' worked perfectly. I owe you one, Leon.

Ed Carpenter,  
Home End,  
Pin Hill,  
Pinhoe,  
Exeter EX1 3TQ.

/\* As I've said before, if any member is having serious problems with Camberley, I can put them in touch with someone in the Sinclair organisation who will probably be able to help. \*/

### COMPUTAMATE Q-PLUS 2

Simplex Data Ltd. recently loaned me a prototype of their Q-Plus2 two-slot bus expansion module, that will shortly be available from Computamate. The unit is buffered, and allows memory expansion (such as the Simplex 256K or 512K RAM modules) and a peripheral device such as the CST disk interface, to be attached at the same time. Although the prototype had been tested with several different QLs, and another unit has been on test in a commercial environment for three weeks, I had some difficulty in getting it to work reliably with my machine. I expect Simplex to have solved the problem very, shortly ('phone me if you'd like to make sure), and can recommend the Q-Plus2 to members who need both a disk interface and additional memory. The price will be £69.90 from Computamate (on (0782) 811711), or from Compware (see advert. in this issue). Smiths will also be stocking it.

Leon Heller

### MICE AT CAMBRIDGE

The photograph below was taken at the March Cambridge workshop, and is included to see how photographs reproduce in the newsletter. If the experiment is successful, we'll have more pictures in subsequent issues.





### THE LIBRARY

I'm very sorry, but I got Software Librarian Sid Day's address wrong in the last issue) It should have been:-

Sid Day,  
241, Highfield Road,  
Romford,  
Essex RM5 3AW.  
Tel: (0708) 27272

Luckily, things have been getting to him without too many problems.

We have now managed to find sufficient cartridges for most of the sub-librarians to be issued with the library, as described in the library list. I said recently that we had too many sub-librarians in some regions, and Brian Davies and Mike Finley have resigned. My thanks to them both for what they have done in the past. Brian has been reincarnated as Assistant Librarian, the post formerly held by Sid, so will you please send contributions to Brian, in the first instance, for checking. Brian's address is :-

Brian Davies,  
26, Guy Garth,  
Hendon,  
Humberside,  
HU12 8NP.  
Tel: (0482) 899484

Jerry Tresman can supply the complete library on one 3 1/2" DS disk. Jerry's address is:-

Jerry Tresman,  
61, Ashdown Road,  
Chandlers Ford,  
Hants. S05 1QX.  
Tel: (04215) 63129

Leon Heller

### NOTES FROM YOUR SECRETARY

Please note that you can ring up to 22.30, apart from lunch time (12.45 to 14.15) and tea time (17.15 to 18.15). Sometimes a chat may be out of the question due to current workloads. I'm sorry about delays in supplying. lists of local members, but I tend to batch these requests.

Please keep the label on your envelope, as this is needed for library requests and for claiming discounts from suppliers.

Chas Dillon's 100 pages on Archive have received a rapturous reception, and Rob Sherratt has prepared 10 pages of notes on the use of the LIBFILE cartridge, which contains details of the library.

Chas Dillon's Archive Notes	£3.75
" " cartridge	£5.00 (£3.00 if cart. supplied)
Library list (50 pages)	£2.75

Please send stamps with requests for the above.

Sid Day can supply cartridges containing the library programmes.

### Sub-groups and contacts

Aylesbury	David Nowotnik	(0296) 630867
Birmingham	Andrew Atton	021-477 4618
London North	Ashok Soni	01-472 9966
London South	Don Forbes	01-688 5794
London West	Gordon Henson	01-373 4647
Bristol	John Tanner	(0272) 623401
Oxford	Francis Cameron	(0865) 240058
Southampton	Jonathan Kempston	(0703) 766879
Liverpool	Peter Stewart	(0704) 37626
Edinburgh	Ted Gladstone	031-661 4558
Sweden	Kalle Blomqvist	Haradsgatan 17, S-431, 42 Molndal

### Help available

Abacus	John MacDonald	via Brian Pain
Archive	Chas Dillon	(0827) 897343
Archive	Sandra Essex	(08833) 4796
Cash Trader	Albert Morris	via Brian Pain
General (BASIC etc.)	Gordon Henson	01-373 4647
Machine code	Gary Williams	01-907 2360

Quill, Abacus and Easel helpers required.

### Software Library

Librarian	Sid Day	(0708) 27272
Assistant Librarian	Brian Davies	(0482) 899484

As these notes will appear here every month, will sub-group contacts 'pester' me to ensure inclusion.

### WORKSHOPS

#### June 30 - 68000 Hackers' Day

For hardware and software hackers. Cost will be £3.00. Please ring me if you are bringing equipment. A "for sale and wanted" stall can be run, if there is any demand for it. Trade tables will be available for £10.00, and must be booked beforehand. The venue is:-

Kennedy Hotel,  
Cardington Street,  
London. NW1. (Back of EUSTON Station).

#### A day on Archive

Will members please ring me if they would like a day on Archive, with Chas Dillon. The venue will be either the Kennedy Hotel, London, Milton Keynes, or Birmingham.

#### A day on Abacus

This will be held in August, almost certainly in London, at the Kennedy Hotel.

Brian Pain

### STOP PRESS

My main reason for writing is to ask if anyone has written or is writing any programmes to read OPD written Microdrives on the QL and vice versa

With the large number of corporate users this could be an excellent development for QUANTA and software writers. I have access to an ICL OPD at work and of course a QL at home. I have done some timing tests with both for identical processes in ARCHIVE and ABACUS and THE QL IS SIGNIFICANTLY FASTER. For example it takes the OPD 20 seconds to display all the possible graph formats available whereas the QL.,(V 2.00) takes only 12 seconds. ARCHIVE is much faster on the QL and appears to hold many more records in memory, for example with the demo GAZET\_DBF, even though the OPD has more RAM usable for data. I think that the OPD has something akin to the version 1.00 of the PSION programmes.

I have had my QL version JS and PSION version 2.00 since mid-March and am delighted. The Microdrives are now excellent and I think it is highly likely if my experience is typical, that Sinclair's return rate really is down to very low percentages.

I bought my QL from Strong Computers who not only sell it significantly cheaper than Sinclair but the lower price also includes postage and packing!

Thank you for the invaluable information that is provided through QUANTA which really is quite astounding,

Kable S. Singh,  
39, Broad Chalks Down,  
Winchester SO22 4LR.

Avoid the embarrassment of spelling mistakes.

*The Spelling Checker For the QL!*

Qspell will check the spelling of any QUILL document. Written in machine code for rapid performance, it:

- lists the unique words in the document
- checks the list against a dictionary (10,000 word dictionary supplied)
- scrolls the list of unrecognised words up or down while you decide whether a word needs correcting or adding to your own personalised dictionary
- prepares misspell words for import to QUILL for correction
- creates your own personalised dictionary
- merges dictionaries.

**Qspell**

£14.95 (mail order only), Qspell, 9 Brook Ave, Edgware, Mx.

QUILL is a trademark of Psion Limited. QL is a trademark of Sinclair Research Limited.

# COMPUWARE

Microcomputer Peripherals  
and Software

57 Repton Drive  
Haslington  
Crewe CW1 1SA  
Tel: (0270) 582301

COMPUWARE QL PRODUCT PRICE LIST - MAY 1985

PRICES INCLUDE VAT AND DELIVERY

Hardware

Sinclair QL (Psion 2 packages)	£389-99
Microvitec CUB high res monitor with cable	£265-00
Sinlex 256K RAM expansion	£195-00 NEW LOW PRICE
2 slot expansion console (eg hold RAM+QDISC)	£ 69-00 NEW
4 slot expansion console (CST)	£ ***** SOON
CST Q-DISC QL floppy disc interface	£149-00
3.5" or 5.25" single 360k disc system	£308-00 *
3.5" or 5.25" dual 360k disc system	£475-00 * & SEE BELOW
3.5" or 5.25" single 720k disc system	£349-00 *
3.5" or 5.25" dual 720k disc system	£529-00 *
MEDIC DATASYSTEMS disc drives	£ ***** SOON
CP80 80 column dot matrix printer	£225-00
Star Gemini 10X 80 col dot matrix printer	£265-00
Smith Corona Daisywheel printer	£219-00
10 5.25" floppy discs in plastic box	£ 29-95
1 3.5" floppy disc	£ 4-99 (10 for £45)
4 microdrives in plastic wallet (as with QL)	£ 8-99 NEW LOW PRICE
QL serial cable	£ 15-00
QL Centronics interface	£ 38-00

\* All disc systems include drive(s), power supply, all cables, Q-DISC interface, and extensive typset manual. Just plug in and go.  
& WE HAVE LIMITED STOCK AT £399 (5.25" 360k dual only) - act fast

Software Utilities

Computer One Assembler	£ 29
Computer One Monitor	£ 24
Computer One Pascal	£ 39
Computer One Forth	£ 39
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Metacomco Assembler	£ 39
Metacomco BCPL	£ 59
Metacomco LISP	£ 59
Graphiql - Talent Computer systems	£ 34
Sprite Designer	£ 9-99
Compuare Toolkit	£ 9-99

Software Games

Hungry Harry - ARCADE ACTION !!!	£ 9-99
QL Backgammon	£ 15
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West Adventure - Talent Computer systems	£ 18
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- o Limited to one offer per order
- o Orders must be received enclosing this list by end June 1985
- o Offer does not apply to QL, Microvitec CUB, or any printer